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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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MICROSOFT CORPORATION ONE MICROSOFT WAY REDMOND, WA 98052-6399				
			EXAMINER VAN HANDEL, MICHAEL P	
			ART UNIT 2623	PAPER NUMBER
			NOTIFICATION DATE 01/02/2008	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

09/770,769

Applicant(s)

KEREN ET AL.

Examiner

Michael Van Handel

Art Unit

2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17, 19, 20, 23, 45 and 47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17, 19, 20, 23, 45, 47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/08/2007 has been entered.

Response to Amendment

1. This action is responsive to an Amendment filed 10/08/2007. Claims **17, 19, 20, 23, 45, 47** are pending. Claims **17, 20, 23, 45** are amended. Claims **1-16, 18, 21-22, 24-44, 46** are canceled.

Response to Arguments

1. Applicant's arguments regarding the Williams, Jr. reference have been considered, but are moot in view of the new ground(s) of rejection.
2. Applicant's arguments regarding claims **17, 20, and 45**, filed 10/08/2007, have been fully considered, but they are not persuasive.

Regarding claims **17, 20, and 45**, the applicant argues that Richardson et al. does not disclose a server that generates a set of predefined display elements of a user interface and stores the set in a table in compressed form, wherein the stored predefined display elements comprise

display elements of three or more types of display elements from a group consisting of background, menu, button, icon or font display elements. The examiner respectfully disagrees. As noted by the applicant, Richardson et al. discloses a virtual network computing (VNC) server that allows a single desktop to be accessed by multiple clients. The VNC server uses various encoding schemes for drawing user interface components. The VNC server selects an appropriate encoding scheme according to the capabilities of the server and client and the network connection between them (Richardson et al. p. 33, paragraph 2 & p. 35, paragraph 6).

Richardson et al. further discloses that the server is the endpoint where changes to the framebuffer originate. The user interacts with a graphical user interface operating at the VNC server (p. 35, The VNC Protocol). In response to user interaction, the VNC server analyzes the changes since the last update to the VNC client and encodes the changes into a set of rectangles using various different encoding schemes. All screen changes since the last update are the coalesced into a single framebuffer update and transmitted to the VNC client (p. 35, A Single Graphics Primitive & Adaptive Update). Richardson et al. still further discloses reusing windows, backgrounds, and text characters from previous update for the current update by copying the previous occurrence and modifying it to use for the current update (for example, copying a window that's been scrolled moved across a screen or copying a previous occurrence of a text character and transmitting the changes in the x, y coordinates to make modifications for the current update)(p. 35, A Single Graphics Primitive, Adaptive Update & Fig. 2). Since the windows, backgrounds, and text characters from the previous update are stored at the VNC server and reused for the current update, the examiner interprets these windows, backgrounds, and text characters to be a set of predefined display elements of a user interface stored in a table

in compressed form (framebuffer frame). Thus, the examiner maintains that Richardson et al. meets the limitation of “a server that generates a set of predefined display elements of a user interface and stores the set in a table in compressed form, wherein the stored predefined display elements comprise display elements of three or more types of display elements from a group consisting of background, menu, button, icon or font display elements,” as currently claimed.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 17, 19, 20, 23, 45, 47 are rejected under 35 U.S.C. 102(e) as being anticipated by Richardson et al. (of record - Virtual Network Computing).

Referring to claims 17, 20, and 45, Richardson et al. discloses a remote computing server system/method that includes a server that provides remote client access to one or more programs that are run at the server, remotely from one or more client systems (in VNC, server machines supply applications, data, and an entire desktop environment that can be accessed from any Internet-connected machine)(p. 33), and wherein the server converts display commands generated from the one or more programs into compressed video streams (the user interface is

treated as video and only the parts of the screen that are changed are sent)(p. 34 Videotile), the remote computing server system comprising:

- a server that generates a set of predefined display elements of a user interface (display elements from the pre-update frame) and stores the set in a table in compressed form (the VNC server is the endpoint where changes to the framebuffer originate. Updates represent changes from one valid framebuffer state to another)(p. 35, The VNC Protocol & Adaptive Update), wherein the stored predefined display elements comprise display elements of three or more types of display elements from a group consisting of background (a rectangle may describe a rectangle of a background color)(p. 35), menu (a rectangle may describe a window)(p. 35; p. 36; & Figs. 2a-2d), button (Fig. 2), icon (Fig. 2) or font display elements (a pixel-data caching scheme can encode multiple occurrences of the same text character by referring to the first occurrence. Large areas of text can also be copy-rectangle encoded)(p. 35 & Fig. 2), wherein the server executes a plurality of programs, each of which generates a set of display commands responsive to an Internet connection for a client that is remote from the server computer, the set of display commands representing original display elements (new framebuffer state elements) of a user interface for the Internet connection for each of said plurality of programs (p. 33);
- an analysis module for comparing the original display elements with the set of predefined display elements stored at the server, wherein responsive to transmission bandwidth limitations that are identified by the server (various encoding schemes allow a large degree of flexibility in trading off parameters, such as network

bandwidth, client drawing speed, and server processing speed. The server can choose the encoding for each rectangle based on the particular screen content being transmitted and the available network bandwidth. A client that cannot easily read from its framebuffer can specify that it should not be sent data encoded in this way)(p. 35, A Single Graphics Primitive & Adaptive Update), the analysis module selects corresponding modified display elements from the set of predefined display elements that are most similar to one or more of the original display elements (a moved window will use window pixel data from the framebuffer prior to the move. A scrolled window will use pixel data from the framebuffer prior to the scroll), the set of predefined elements compiled to simplify compression in accordance with said transmission bandwidth limitations (p. 35, Adaptive Update), wherein the display elements comprise graphical primitives (if the current framebuffer state has the same background, window, and/or text as the previous framebuffer state, the server uses copy-rectangle encoding or a pixel-data caching scheme to save bandwidth by reusing the same pixel data)(p. 35, The VNC Protocol; A Single Graphics Primitive; & Adaptive Update), wherein selecting the corresponding modified display elements includes:

- referring to a plurality of modifiable parameters that trade image quality and bandwidth with each of these modifiable parameters having a range in which image quality is minimally degraded and a range in which image quality is significantly degraded and selecting the modified display elements based on the plurality of modifiable parameters so that image quality is minimally

degraded based on the transmission bandwidth limitations (various encoding schemes can be used to allow a large degree of flexibility in trading off parameters, such as network bandwidth, client drawing speed, and server processing speed. The server can choose the encoding scheme most appropriate for the screen content being transmitted and the available network bandwidth)(p. 35);

- a video compressor which receives the degraded modified display elements selected above and generates there from a compressed video stream for each one of said plurality of programs (p. 35, Adaptive Update); and
- a transmitter that transmits the plurality of compressed video streams to one or more remote locations (p. 35, Adaptive Update).

Referring to claims 19, 23, and 47, Richardson et al. discloses a server/method according to claims 17, 20, and 45, respectively, wherein the set of predefined display elements stored differ from the original display elements by one or more of color, spatial frequency spectrum, size (the size dimensions of the background will change based on the movement of text and windows)(p. 35, A Single Graphics Primitive), contrast, or type.

NOTE: The USPTO considers the applicant's "one or more" language to be anticipated by any reference containing any of the subsequent corresponding elements.

Conclusion

1. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Wood et al. discloses a teleporting computer system using Java that provides a remote frame buffer service. The RFB service accepts mouse and keyboard events at a client, executes the events at a server, and sends a set of bitmapped rectangles representing the changes to the screen from the server to the client.

Richardson et al. (The RFB Protocol) discloses a simple protocol for remote access to graphical user interfaces.

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Van Handel whose telephone number is 571-272-5968. The examiner can normally be reached on 8:00am-5:30pm Mon.-Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on 571-272-7331. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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